

1 (currently amended). A method for presenting weather data and related data for use in aviation, the method comprising:

providing presently measured or estimated values for each of a selected subset of a set of selected situation parameters, where the situation parameter set comprises trip length, present phase of trip, trip departure time, distance from present location to a selected aircraft destination, visibility, ceiling or cloud cover, longitudinal wind speed, cross wind speed, wind gust speed, temperature, dew point and density altitude;

providing a reference database containing a collection of N reference situations, numbered $n = 1, \dots, N$ ($N \geq 2$), with each reference situation being characterized by an ordered set of parameter value ranges, one range for each of the selected subset of parameters; ~~and~~

wherein at least one of the reference situations comprises a selected set of conditions consisting of: (1) trip phase being one of {pre-departure, takeoff, ascent and cruise}, AND at least one of:

(2A) $v_w(\text{present;dest}) - v_w(\text{forecast;dest}) \geq \Delta v_w(\text{thr})$, where $\Delta v_w(\text{thr})$ is a selected positive value; AND

(2B) at least one of the following inequalities is satisfied: $\{\Delta T(\text{dew;dest}) \leq \Delta T(\text{dew;thr})\}$ OR $\{\text{VIS}(\text{dest}) \leq \text{VIS}(\text{dest;thr})\}$ OR $\{\text{Ce}(\text{dest}) \leq \text{Ce}(\text{dest;thr})\}$ OR $\{v_w(\text{long;dest}) \geq v_w(\text{long;thr})\}$ OR $\{v_w(\text{cr;dest}) \geq v_w(\text{cr;thr})\}$, where $\Delta T(\text{dew;thr})$, $\text{VIS}(\text{dest;thr})$, $\text{Ce}(\text{dest;thr})$, $v_w(\text{long;thr})$ and $v_w(\text{cr;thr})$ are selected threshold values;; AND

(2C) at least one of the following inequalities is satisfied: $\{\text{VIS}(\text{dest}) \leq \text{VIS}(\text{dest;thr})\}$ OR $\{\text{Ce}(\text{dest}) \leq \text{Ce}(\text{dest;thr})\}$ OR $\{v_w(\text{long;dest}) \geq v_w(\text{long;thr})\}$ OR $\{v_w(\text{cr;dest}) \geq v_w(\text{cr;thr})\}$, where $\text{VIS}(\text{dest;thr})$, $\text{Ce}(\text{dest;thr})$, $v_w(\text{long;thr})$ and

$v_w(\text{cr};\text{thr})$ are selected threshold values; and

when the measured or estimated value of each situation parameter in the selected subset lies within the corresponding value range for the parameter, displaying a selected subset of weather data, in at least one of visually perceptible format and audibly perceptible format, where the subset of weather data is drawn from a set of weather data that comprises a measured value or estimated value of at least one of aircraft present altitude, static air pressure at aircraft present altitude, longitudinal wind speed, crosswind speed, wind gust speed, wind variability, wind vector direction, temperature, dew point, temperature-dewpoint spread, density altitude, sky condition for at least one altitude range, ground visibility at a selected aircraft destination, ground precipitation at the selected destination, visibility obscurations along aircraft flight route, ceiling, distance from the selected destination, fuel required to reach the selected destination, recommended runway for the selected destination, and time of most recent measurement upon which the subset of weather data is based.

2 (currently amended). The method of claim 1, further comprising:

~~choosing at least one of said reference situations to comprise a selected set of conditions consisting of: (1) trip phase being one of {pre-departure, takeoff, ascent and cruise}, AND (2) $v_w(\text{present};\text{dest}) - v_w(\text{forecast};\text{dest}) \geq \Delta v_w(\text{thr})$, where $\Delta v_w(\text{thr})$ is a selected positive value; and~~

when ~~each of the selected set of~~ said conditions is (1) and (2A) are satisfied, displaying estimated fuel required to move from aircraft present location to said destination in at least one of a visually perceptible format and an audibly perceptible format.

3 (currently amended). The method of claim 1, further comprising:

~~choosing at least one of said reference situations to comprise a selected set of conditions consisting of: (1) trip phase being one of {pre-departure, takeoff, ascent and cruise}, AND (2) at least one of the following inequalities is satisfied: $\{\Delta T(\text{dew}; \text{dest}) \leq \Delta T(\text{dew}; \text{thr})\}$ OR $\{\text{VIS}(\text{dest}) \leq \text{VIS}(\text{dest}; \text{thr})\}$ OR $\{\text{Ce}(\text{dest}) \leq \text{Ce}(\text{dest}; \text{thr})\}$ OR $\{v_w(\text{long}; \text{dest}) \geq v_w(\text{long}; \text{thr})\}$ OR $\{v_w(\text{cr}; \text{dest}) \geq v_w(\text{cr}; \text{thr})\}$, where $\Delta T(\text{dew}; \text{thr})$, $\text{VIS}(\text{dest}; \text{thr})$, $\text{Ce}(\text{dest}; \text{thr})$, $v_w(\text{long}; \text{thr})$ and $v_w(\text{cr}; \text{thr})$ are selected threshold values; and~~

when ~~each of the selected set of~~ said conditions ~~is~~ (1) and (2B) are satisfied, displaying at least one of $\Delta T(\text{dew}; \text{dest})$, $\text{VIS}(\text{dest})$, $\text{Ce}(\text{dest})$, $v_w(\text{long}; \text{dest})$ and $v_w(\text{cr}; \text{dest})$ in at least one of a visually perceptible format and an audibly perceptible format.

4 (currently amended). The method of claim 1, further comprising:

~~choosing at least one of said reference situations to comprise a selected set of conditions consisting of: (1) trip phase being one of {pre-departure, takeoff, ascent and cruise}, AND (2) at least one of the following inequalities is satisfied: $\{\text{VIS}(\text{dest}) \leq \text{VIS}(\text{dest}; \text{thr})\}$ OR $\{\text{Ce}(\text{dest}) \leq \text{Ce}(\text{dest}; \text{thr})\}$ OR $\{v_w(\text{long}; \text{dest}) \geq v_w(\text{long}; \text{thr})\}$ OR $\{v_w(\text{cr}; \text{dest}) \geq v_w(\text{cr}; \text{thr})\}$, where $\text{VIS}(\text{dest}; \text{thr})$, $\text{Ce}(\text{dest}; \text{thr})$, $v_w(\text{long}; \text{thr})$ and $v_w(\text{cr}; \text{thr})$ are selected threshold values; and~~

when ~~each of the selected set of~~ said conditions ~~is~~ (1) and (2C) are satisfied, displaying at least one of $\text{VIS}(\text{dest})$, $\text{Ce}(\text{dest})$, $v_w(\text{long}; \text{dest})$ and $v_w(\text{cr}; \text{dest})$ in at least one of a visually perceptible format and an audibly perceptible format.

5 (currently amended). The method of claim [[1]] 22, further comprising:

~~choosing at least one of said reference situations to comprise a selected set of conditions consisting of: (1) trip phase being one of {approach}, AND (2) at least one of the following inequalities is satisfied: $\{h(\text{dens};\text{dest}) \geq h(\text{dens};\text{dest};\text{thr})\}$ OR $\{VIS(\text{dest}) \leq VIS(\text{dest};\text{thr})\}$ OR $\{Ce(\text{dest}) \leq Ce(\text{dest};\text{thr})\}$ OR $\{v_w(\text{long};\text{dest}) \geq v_w(\text{long};\text{thr})\}$ OR $\{v_w(\text{cr};\text{dest}) \geq v_w(\text{cr};\text{thr})\}$, where $h(\text{dens};\text{dest};\text{thr})$, $VIS(\text{dest};\text{thr})$, $Ce(\text{dest};\text{thr})$, $v_w(\text{long};\text{thr})$ and $v_w(\text{cr};\text{thr})$ are selected threshold values; and~~

when each of the selected set of said conditions is (1) and (2A) are satisfied, displaying at least one of $h(\text{dens}(\text{dest};\text{thr})$, $VIS(\text{dest})$, $Ce(\text{dest})$, $v_w(\text{long};\text{dest})$, $v_w(\text{cr};\text{dest})$ and recommended runway at said selected destination in at least one of a visually perceptible format and an audibly perceptible format.

6 (currently amended). The method of claim [[1]] 22, further comprising:

~~choosing at least one of said reference situations to comprise a selected set of conditions consisting of: (1) trip phase being one of {approach}, AND (2) at least one of the following inequalities is satisfied: $\{VIS(\text{dest}) \leq VIS(\text{dest};\text{thr})\}$ OR $\{Ce(\text{dest}) \leq Ce(\text{dest};\text{thr})\}$ OR $\{v_w(\text{long};\text{dest}) \geq v_w(\text{long};\text{thr})\}$ OR $\{v_w(\text{cr};\text{dest}) \geq v_w(\text{cr};\text{thr})\}$, where $VIS(\text{dest};\text{thr})$, $Ce(\text{dest};\text{thr})$, $v_w(\text{long};\text{thr})$ and $v_w(\text{cr};\text{thr})$ are selected threshold values; and~~

when each of the selected set of said conditions is (1) and (2A) are satisfied, displaying at least one of $VIS(\text{dest})$, $Ce(\text{dest})$, $v_w(\text{long};\text{dest})$, $v_w(\text{cr};\text{dest})$ and recommended runway at said selected destination in at least one of a visually perceptible format and an audibly perceptible format.

7 (ccurrently amended). The method of claim ~~[[1]]~~ 23, further comprising:

~~choosing at least one of said reference situations to comprise a selected set of conditions consisting of: (1) trip phase being one of {cruise}, AND (2) at least one of the following inequalities is satisfied: $\{h(\text{dens}; \text{NANYFB}) \geq h(\text{dens}; \text{NANYFB}; \text{thr})\}$ OR $\{VIS(\text{NANYFB}) \leq VIS(\text{NANYFB}; \text{thr})\}$ OR $\{Ce(\text{NANYFB}) \leq Ce(\text{dest}; \text{thr})\}$, where $h(\text{dens}; \text{NANYFB}; \text{thr})$, $VIS(\text{NANYFB}; \text{thr})$ and $Ce(\text{NANYFB}; \text{thr})$ are selected threshold values and "NANYFB" refers to an airport within a selected transverse distance from said flight route that has not yet been flown past by said aircraft; and~~

when ~~each of the selected set of~~ said conditions ~~is~~ (1) and (2A) are satisfied, displaying at least one of location of NANYFB, $h(\text{dens}(\text{NANYFB}; \text{thr}))$, $VIS(\text{NANYFB})$, $Ce(\text{NANYFB})$ and recommended runway at said selected destination in at least one of a visually perceptible format and an audibly perceptible format.

8 (currently amended). The method of claim ~~[[1]]~~ 23, further comprising:

~~choosing at least one of said reference situations to comprise a selected set of conditions consisting of: (1) trip phase being one of {cruise}, AND (2) at least one of the following inequalities is satisfied: $\{VIS(\text{NANYFB}) \leq VIS(\text{NANYFB}; \text{thr})\}$ OR $\{Ce(\text{NANYFB}) \leq Ce(\text{dest}; \text{thr})\}$, where $VIS(\text{NANYFB}; \text{thr})$ and $Ce(\text{NANYFB}; \text{thr})$ are selected threshold values and "NANYFB" refers to an airport within a selected transverse distance from said flight route that has not yet been flown past by said aircraft; and~~

when ~~each of the selected set of~~ said conditions ~~is~~ (1) and (2B) are satisfied, displaying at least one of location of NANYFB, $VIS(\text{NANYFB})$, $Ce(\text{NANYFB})$ and recommended runway at said selected destination in at least one of a visually

perceptible format and an audibly perceptible format.

9 (currently amended). The method of claim [[1]] 24, further comprising:

~~choosing at least one of said reference situations to comprise a selected condition consisting of: at least one of the following inequalities is satisfied: $\{ \{ \text{VIS}(\text{forecast}; \text{dest}) - \text{VIS}(\text{present}; \text{dest}) \geq \Delta \text{VIS}(\text{thr}) \}, \text{OR } \{ \text{Ce}(\text{forecast}; \text{dest}) - \text{Ce}(\text{present}; \text{dest}) \geq \Delta \text{Ce}(\text{thr}) \} \text{OR } \{ \Delta \text{T}(\text{dew}; \text{dest}) \leq \Delta \text{T}(\text{dew}; \text{thr}) \} \text{OR } \{ v_w(\text{long}; \text{dest}) \geq v_w(\text{long}; \text{thr}) \} \text{OR } \{ v_w(\text{cr}; \text{dest}) \geq v_w(\text{cr}; \text{thr}) \} \}$, where $\Delta \text{VIS}(\text{thr})$, $\Delta \text{Ce}(\text{thr})$, $\Delta \text{T}(\text{dew}; \text{thr})$, $v_w(\text{long}; \text{thr})$ and $v_w(\text{cr}; \text{thr})$ are selected positive values};~~
and

when ~~each of the selected set of~~ said conditions ~~is~~ (1) and (2B) are satisfied, displaying at least one of $\text{VIS}(\text{present}; \text{dest})$, $\text{Ce}(\text{present}; \text{dest})$, $\Delta \text{T}(\text{dew}; \text{dest})$, $v_w(\text{long}; \text{dest})$ and $v_w(\text{cr}; \text{dest})$ in at least one of a visually perceptible format and an audibly perceptible format.

10 (canceled).

11 (currently amended). The method of claim [[1]] 23, further comprising:

~~choosing at least one of said reference situations to comprise a selected set of conditions consisting of: (1) trip phase being one of {cruise, descent, approach} AND (2) $\{ \text{As}(\text{dest}) \leq \text{As}(\text{thr}) \}$ AND (3) at least one of the following inequalities is satisfied: $\{ \{ v_w(\text{cr}; \text{dest}) \geq v_w(\text{cr}; \text{thr}) \} \text{OR } \{ v_w(\text{gust}; \text{dest}) \geq v_w(\text{gust}; \text{thr}) \} \}$, where $v_w(\text{cr}; \text{thr})$ and $v_w(\text{gust}; \text{thr})$ are selected threshold values; and~~

when ~~each of the selected set of~~ said conditions ~~is~~ (1) and (2C) are satisfied, displaying at least one of $v_w(\text{cr}; \text{dest})$, $v_w(\text{gust}; \text{dest})$ and recommended runway at

said selected destination in at least one of a visually perceptible format and an audibly perceptible format.

12 (canceled)

13 (canceled)

14 (original). The method of claim 1, further comprising providing a reference database modification module that implements at least one of: (i) change of said range for at least one of said parameters in said selected subset; (ii) deletion of a parameter in said selected subset and deletion of said corresponding value range; (iii) addition of a parameter to said selected subset and addition of a corresponding value range for the added parameter; and (iv) specification of at least one of said visually perceptible display and said audibly perceptible display for said display of said selected subset of weather data.

15 (canceled).

16 (canceled)

17 (canceled).

18 (canceled)

19 (canceled)

20 (canceled)

21 (canceled)

22 (new). A method for presenting weather data and related data for use in aviation, the method comprising:

providing presently measured or estimated values for each of a selected subset of a set of selected situation parameters, where the situation parameter set comprises trip length, present phase of trip, trip departure time, distance from present location to a selected aircraft destination, visibility, ceiling or cloud cover, longitudinal wind speed, cross wind speed, wind gust speed, temperature, dew point and density altitude;

providing a reference database containing a collection of N reference situations, numbered $n = 1, \dots, N$ ($N \geq 2$), with each reference situation being characterized by an ordered set of parameter value ranges, one range for each of the selected subset of parameters;

wherein at least one of the reference situations comprises a selected set of conditions consisting of: (1) trip phase being one of {approach}; AND at least one of:

(2A) at least one of the following inequalities is satisfied: $\{h(\text{dens};\text{dest}) \geq h(\text{dens};\text{dest};\text{thr})\}$ OR $\{\text{VIS}(\text{dest}) \leq \text{VIS}(\text{dest};\text{thr})\}$ OR $\{\text{Ce}(\text{dest}) \leq \text{Ce}(\text{dest};\text{thr})\}$ OR $\{v_w(\text{long};\text{dest}) \geq v_w(\text{long};\text{thr})\}$ OR $\{v_w(\text{cr};\text{dest}) \geq v_w(\text{cr};\text{thr})\}$, where $h(\text{dens};\text{dest};\text{thr})$, $\text{VIS}(\text{dest};\text{thr})$, $\text{Ce}(\text{dest};\text{thr})$, $v_w(\text{long};\text{thr})$ and $v_w(\text{cr};\text{thr})$ are selected

threshold values; AND

(2B) at least one of the following inequalities is satisfied: $\{\{VIS(dest) \leq VIS(dest;thr)\} \text{ OR } \{Ce(dest) \leq Ce(dest;thr)\} \text{ OR } \{v_w(long;dest) \geq v_w(long;thr)\} \text{ OR } \{v_w(cr;dest) \geq v_w(cr;thr)\}\}$, where $VIS(dest;thr)$, $Ce(dest;thr)$, $v_w(long;thr)$ and $v_w(cr;thr)$ are selected threshold values; and

when the measured or estimated value of each situation parameter in the selected subset lies within the corresponding value range for the parameter, displaying a selected subset of weather data, in at least one of visually perceptible format and audibly perceptible format, where the subset of weather data is drawn from a set of weather data that comprises a measured value or estimated value of at least one of aircraft present altitude, static air pressure at aircraft present altitude, longitudinal wind speed, crosswind speed, wind gust speed, wind variability, wind vector direction, temperature, dew point, temperature-dewpoint spread, density altitude, sky condition for at least one altitude range, ground visibility at a selected aircraft destination, ground precipitation at the selected destination, visibility obscurations along aircraft flight route, ceiling, distance from the selected destination, fuel required to reach the selected destination, recommended runway for the selected destination, and time of most recent measurement upon which the subset of weather data is based.

23 (new). A method for presenting weather data and related data for use in aviation, the method comprising:

providing presently measured or estimated values for each of a selected subset of a set of selected situation parameters, where the situation parameter set comprises trip length, present phase of trip, trip departure time, distance from present location to a selected aircraft destination, visibility, ceiling or cloud cover,

longitudinal wind speed, cross wind speed, wind gust speed, temperature, dew point and density altitude;

providing a reference database containing a collection of N reference situations, numbered $n = 1, \dots, N$ ($N \geq 2$), with each reference situation being characterized by an ordered set of parameter value ranges, one range for each of the selected subset of parameters;

wherein at least one of the reference situations comprises a selected set of conditions consisting of: (1) trip phase being one of {cruise, descent, approach}, AND at least one of:

(2A) at least one of the following inequalities is satisfied:
 $\{\{h(\text{dens}; \text{NANYFB}) \geq h(\text{dens}; \text{NANYFB}; \text{thr})\} \text{ OR } \{\text{VIS}(\text{NANYFB}) \leq \text{VIS}(\text{NANYFB}; \text{thr})\} \text{ OR } \{\text{Ce}(\text{NANYFB}) \leq \text{Ce}(\text{dest}; \text{thr})\}\}$, where
 $h(\text{dens}; \text{NANYFB}; \text{thr})$, $\text{VIS}(\text{NANYFB}; \text{thr})$ and $\text{Ce}(\text{NANYFB}; \text{thr})$ are selected threshold values and “NANYFB” refers to an airport within a selected transverse distance from said flight route that has not yet been flown past by said aircraft;
 AND

(2B) at least one of the following inequalities is satisfied: $\{\{\text{VIS}(\text{NANYFB}) \leq \text{VIS}(\text{NANYFB}; \text{thr})\} \text{ OR } \{\text{Ce}(\text{NANYFB}) \leq \text{Ce}(\text{dest}; \text{thr})\}\}$, where
 $\text{VIS}(\text{NANYFB}; \text{thr})$ and $\text{Ce}(\text{NANYFB}; \text{thr})$ are selected threshold values and
 “NANYFB” refers to an airport within a selected transverse distance from said flight route that has not yet been flown past by said aircraft; AND

(2C) $\{\Delta s(\text{dest}) \leq \Delta s(\text{thr})\}$ AND (3) at least one of the following inequalities is satisfied: $\{\{v_w(\text{cr}; \text{dest}) \geq v_w(\text{cr}; \text{thr})\} \text{ OR } \{v_w(\text{gust}; \text{dest}) \geq v_w(\text{gust}; \text{thr})\}\}$, where
 $v_w(\text{cr}; \text{thr})$ and $v_w(\text{gust}; \text{thr})$ are selected threshold values;

when the measured or estimated value of each situation parameter in the selected subset lies within the corresponding value range for the parameter,

displaying a selected subset of weather data, in at least one of visually perceptible format and audibly perceptible format, where the subset of weather data is drawn from a set of weather data that comprises a measured value or estimated value of at least one of aircraft present altitude, static air pressure at aircraft present altitude, longitudinal wind speed, crosswind speed, wind gust speed, wind variability, wind vector direction, temperature, dew point, temperature-dewpoint spread, density altitude, sky condition for at least one altitude range, ground visibility at a selected aircraft destination, ground precipitation at the selected destination, visibility obscurations along aircraft flight route, ceiling, distance from the selected destination, fuel required to reach the selected destination, recommended runway for the selected destination, and time of most recent measurement upon which the subset of weather data is based.

24 (new). A method for presenting weather data and related data for use in aviation, the method comprising:

providing presently measured or estimated values for each of a selected subset of a set of selected situation parameters, where the situation parameter set comprises trip length, present phase of trip, trip departure time, distance from present location to a selected aircraft destination, visibility, ceiling or cloud cover, longitudinal wind speed, cross wind speed, wind gust speed, temperature, dew point and density altitude;

providing a reference database containing a collection of N reference situations, numbered $n = 1, \dots, N$ ($N \geq 2$), with each reference situation being characterized by an ordered set of parameter value ranges, one range for each of the selected subset of parameters, wherein at least one of said reference situations comprises a selected condition consisting of at least one of the following:

$\{\{VIS(\text{forecast}; \text{dest}) - VIS(\text{present}; \text{dest}) \geq \Delta VIS(\text{thr})\}, \text{OR } \{Ce(\text{forecast}; \text{dest}) - Ce(\text{present}; \text{dest}) \geq \Delta Ce(\text{thr})\} \text{OR } \{\Delta T(\text{dew}; \text{dest}) \leq \Delta T(\text{dew}; \text{thr})\} \text{OR}$
 $\{v_w(\text{long}; \text{dest}) \geq v_w(\text{long}; \text{thr})\} \text{OR } \{v_w(\text{cr}; \text{dest}) \geq v_w(\text{cr}; \text{thr})\}\}$, where $\Delta VIS(\text{thr})$, $\Delta Ce(\text{thr})$, $\Delta T(\text{dew}; \text{thr})$, $v_w(\text{long}; \text{thr})$ and $v_w(\text{cr}; \text{thr})$ are selected positive values};

when the selected conditions is satisfied, displaying at least one of $VIS(\text{present}; \text{dest})$, $Ce(\text{present}; \text{dest})$, $\Delta T(\text{dew}; \text{dest})$, $v_w(\text{long}; \text{dest})$ and $v_w(\text{cr}; \text{dest})$ in at least one of a visually perceptible format and an audibly perceptible format; and

when the measured or estimated value of each situation parameter in the selected subset lies within the corresponding value range for the parameter, displaying a selected subset of weather data, in at least one of visually perceptible format and audibly perceptible format, where the subset of weather data is drawn from a set of weather data that comprises a measured value or estimated value of at least one of aircraft present altitude, static air pressure at aircraft present altitude, longitudinal wind speed, crosswind speed, wind gust speed, wind variability, wind vector direction, temperature, dew point, temperature-dewpoint spread, density altitude, sky condition for at least one altitude range, ground visibility at a selected aircraft destination, ground precipitation at the selected destination, visibility obscurations along aircraft flight route, ceiling, distance from the selected destination, fuel required to reach the selected destination, recommended runway for the selected destination, and time of most recent measurement upon which the subset of weather data is based.

the selected subset of parameters;

25 (new). A method for presenting weather data and related data for use in aviation, the method comprising:

providing presently measured or estimated values for each of a selected

subset of a set of selected situation parameters, where the situation parameter set comprises trip length, present phase of trip, trip departure time, distance from present location to a selected aircraft destination, visibility, ceiling or cloud cover, longitudinal wind speed, cross wind speed, wind gust speed, temperature, dew point and density altitude;

providing a reference database containing a collection of N reference situations, numbered $n = 1, \dots, N$ ($N \geq 2$), with each reference situation being characterized by an ordered set of parameter value ranges, one range for each of the selected subset of parameters;

when the measured or estimated value of each situation parameter in the selected subset lies within the corresponding value range for the parameter, displaying a selected subset of weather data, in at least one of visually perceptible format and audibly perceptible format, where the subset of weather data is drawn from a set of weather data that comprises a measured value or estimated value of at least one of aircraft present altitude, static air pressure at aircraft present altitude, longitudinal wind speed, crosswind speed, wind gust speed, wind variability, wind vector direction, temperature, dew point, temperature-dewpoint spread, density altitude, sky condition for at least one altitude range, ground visibility at a selected aircraft destination, ground precipitation at the selected destination, visibility obscurations along aircraft flight route, ceiling, distance from the selected destination, fuel required to reach the selected destination, recommended runway for the selected destination, and time of most recent measurement upon which the subset of weather data is based $[[.]]$;

choosing at least one of said reference situations to comprise a selected set of conditions consisting of: for a set of METAR weather parameter values $WP(METAR;m)$ and a set of corresponding TAF weather parameter values

WP(TAF;m) ($m = 1, \dots, M$; $M \geq 1$), a weather parameter difference
 $|WP(METAR;m) - WP(TAF;m)|$ is at least equal to a selected threshold value
 $\Delta WP(m;thr)$ for at least one number, $m=m'$; and

when the selected set of conditions is satisfied, displaying at least one of
WP(METAR; m') and WP(TAF; m') in at least one of a visually perceptible format
and an audibly perceptible format.

26 (new). A method for presenting weather data and related data for use in
aviation, the method comprising:

providing presently measured or estimated values for each of a selected
subset of a set of selected situation parameters, where the situation parameter set
comprises trip length, present phase of trip, trip departure time, distance from
present location to a selected aircraft destination, visibility, ceiling or cloud cover,
longitudinal wind speed, cross wind speed, wind gust speed, temperature, dew
point and density altitude;

providing a reference database containing a collection of N reference
situations, numbered $n = 1, \dots, N$ ($N \geq 2$), with each reference situation being
characterized by an ordered set of parameter value ranges, one range for each of
the selected subset of parameters;

when the measured or estimated value of each situation parameter in the
selected subset lies within the corresponding value range for the parameter,
displaying a selected subset of weather data, in at least one of visually perceptible
format and audibly perceptible format, where the subset of weather data is drawn
from a set of weather data that comprises a measured value or estimated value of at
least one of aircraft present altitude, static air pressure at aircraft present altitude,
longitudinal wind speed, crosswind speed, wind gust speed, wind variability, wind

vector direction, temperature, dew point, temperature-dewpoint spread, density altitude, sky condition for at least one altitude range, ground visibility at a selected aircraft destination, ground precipitation at the selected destination, visibility obscurations along aircraft flight route, ceiling, distance from the selected destination, fuel required to reach the selected destination, recommended runway for the selected destination, and time of most recent measurement upon which the subset of weather data is based [[.]] ;

providing a list of alternate weather data comprising at least one of the following data items: METAR data, nearest IFR, nearest VFR, density altitude, wind velocity, cross wind, wind gust, visibility, ceiling, elevation, weather frequency, suggest runway at said selected destination, traffic pattern at said selected destination, airport information and highlight destination; and

verbally or visually entering at least one of a selected audible display phrase and a selected visual display phrase including specification of one of the data items in order to provide at least one of an audibly perceptible display and a visually perceptible display of information concerning the specified data item.

27 (new): A method for presenting weather data and related data for use in aviation, the method comprising:

providing presently measured or estimated values for each of a selected subset of a set of selected situation parameters, where the situation parameter set comprises trip length, present phase of trip, trip departure time, distance from present location to a selected aircraft destination, visibility, ceiling or cloud cover, longitudinal wind speed, cross wind speed, wind gust speed, temperature, dew point and density altitude, wherein the trip length is specified to be at least one of “short,” “medium,” and “long”;

providing a reference database containing a collection of N reference situations, numbered $n = 1, \dots, N$ ($N \geq 2$), with each reference situation being characterized by an ordered set of parameter value ranges, one range for each of the selected subset of parameters; and

when the measured or estimated value of each situation parameter in the selected subset lies within the corresponding value range for the parameter, displaying a selected subset of weather data, in at least one of visually perceptible format and audibly perceptible format, where the subset of weather data is drawn from a set of weather data that comprises a measured value or estimated value of at least one of aircraft present altitude, static air pressure at aircraft present altitude, longitudinal wind speed, crosswind speed, wind gust speed, wind variability, wind vector direction, temperature, dew point, temperature-dewpoint spread, density altitude, sky condition for at least one altitude range, ground visibility at a selected aircraft destination, ground precipitation at the selected destination, visibility obscurations along aircraft flight route, ceiling, distance from the selected destination, fuel required to reach the selected destination, recommended runway for the selected destination, and time of most recent measurement upon which the subset of weather data is based,

wherein the selected subset of weather data for a given trip is displayed only if the length of the given trip is included in the provided trip length preference.